

Q1 wherein said aluminum silicate comprises at least one of kaolin, metakaolin, halloysite, dickite, nacrite, or a mixture thereof.

Q2 5. (Once Amended) The method of claim 1, wherein said cement slurry comprises between about 1% and about 75% of aluminum silicate [BWOC] by weight of cement.

Q3 8. (Once Amended) The method of claim 1, wherein said aluminum silicate comprises at least one of kaolin, metakaolin, [halloysite, dickite, nacrite,] or a mixture thereof.

11. (Once Amended) A method of cementing within a wellbore, comprising:

introducing a cement slurry comprising a hydraulic cement and aluminum silicate into a wellbore; and

Q4 allowing said cement slurry to set within said wellbore at a temperature of less than about 60°F;

wherein said aluminum silicate comprises at least one of kaolin, metakaolin, halloysite, dickite, nacrite, or a mixture thereof.

Q5 14. (Once Amended) The method of claim 11, wherein said cement slurry comprises between about 1% and about 75% of aluminum silicate [BWOC] by weight of cement.

Q6 17. (Once Amended) The method of claim 11, wherein said aluminum silicate comprises at least one of kaolin, metakaolin, [halloysite, dickite, nacrite,] or a mixture thereof.

20. (Once Amended) A method of cementing within a wellbore, comprising:

introducing a cement slurry comprising a hydraulic cement into an annulus existing between a pipe and said wellbore; and

allowing said cement slurry to set within said wellbore;

wherein said wellbore is located in a seafloor at a water depth greater than about 1000 feet, and wherein said cement slurry substantially prevents intrusion of fluids into said wellbore prior to and after setting of said cement slurry; and

wherein said cement slurry comprises between about 1% and about 25% metakaolin [BWOC] by weight of cement; and

wherein said cement slurry further comprises a foaming agent, and an energizing phase.

22. (Once Amended) The method of claim 20 wherein said cement slurry further comprises between about 1% and about 15% of gypsum [BWOC] by weight of cement.

23. (Once Amended) The method of claim 20, wherein said cement slurry comprises from about 0.01 [GPS] gallons per sack to about 0.5 [GPS] gallons per sack of foaming agent and from about 50 [SCF/bbl] standard cubic feet of nitrogen energizing phase at standard conditions per barrel of unfoamed cement slurry to about 2000 [SCF/bbl] standard cubic feet of nitrogen energizing phase at standard conditions per barrel of unfoamed cement slurry [of nitrogen energizing phase].

25. (Once Amended) A method of cementing within a wellbore, comprising:

introducing a cement slurry comprising a hydraulic cement and aluminum silicate into a wellbore; and

allowing said cement slurry to set within said wellbore;

wherein said wellbore penetrates at least one formation having a pore pressure and being at least partially productive of a fluid; [and]

wherein said cement slurry substantially prevents intrusion of said fluid into said wellbore prior to and after setting of said cement slurry; and

wherein said aluminum silicate comprises at least one of kaolin, metakaolin, halloysite, dickite, nacrite, or a mixture thereof.

29. (Once Amended) The method of claim 25, wherein said cement slurry comprises between about 1% and about 75% of aluminum silicate [BWOC] by weight of cement.

31. (Once Amended) The method of claim 25, wherein said aluminum silicate comprises at least one of kaolin, metakaolin, [halloysite, dickite, nacrite,] or a mixture thereof.

II. RESPONSE TO OFFICE ACTION

Claims 1, 5, 8, 11, 14, 17, 20, 22, 23, 25, 29 and 31 have been amended to even more particularly point out and distinctly claim the claimed subject matter. Claims 36 and 37 have

been cancelled without prejudice or disclaimer. Claims 1-35 are pending in the case. Support for the amendments may be found throughout the specification and claims as originally filed. In particular, the attention of the Examiner is drawn to page 15, lines 19-20 and 24-25; page 24, lines 24-25; page 25, lines 2-3; and page 41. No new matter is added.

A. Examiner Interview

Applicants wish to thank Examiner Suchfield for the courtesy of granting a phone interview with Applicants' representative William W. Enders on September 15, 1999, during which proposed claim amendments were discussed. These amendments included recitations of the units "by weight of cement" and "gallons per sack" in the claims, as well as incorporation of limitations similar to those recited in original dependent claim 8 into each of the independent claims.

B. The Restriction Requirement

Applicants affirm the election of claims 1-35 ("the Group I claims"), without prejudice or disclaimer to the subject matter of claims 36 and 37 ("the Group II claims"). Applicants reserve the right to pursue the subject matter of the Group II claims in one or more additional applications.

C. The Objection to the Specification

The Examiner objected to the specification because "the terms 'BWOC' and 'GPS' have not been defined." However, Applicants point out that "BWOC" is defined as "by weight of cement" on page 41 of the specification (in the legend beneath Table 9); and as "by weight of

base cement” in the specification at page 15, lines 19-20 and lines 24-25. “GPS” is defined as “gallons per sack” at page 25, lines 2-3 of the specification.

In view of the above, Applicants respectfully submit that the objection to the specification should be withdrawn. Favorable reconsideration is requested.

D. The 35 U.S.C. § 112, Second Paragraph Rejection

The Examiner rejected claims 5, 14, 20, 22 and 29 under 35 U.S.C. § 112, second paragraph on the grounds that “the terms BWOC and GPS have not been defined.” Applicants respectfully point out that the abbreviations “BWOC” and “GPS” are defined in the Specification at the locations cited in Section C above. Although Applicants believe the claims are clear and definite as filed, the subject claims have been amended to so that the units “BWOC” and “GPS” are spelled out as “by weight of cement” and “gallons per sack”, respectively. Furthermore, claim 23 has been amended to recite “standard cubic feet of nitrogen energizing phase at standard conditions per barrel of unfoamed cement slurry” instead of the abbreviation “SCF/bbl”. Support for this amendment may be found in the Specification at page 24, lines 24-25.

In view of the above, Applicants respectfully request that the 35 U.S.C. § 112 second paragraph rejection should be withdrawn. As this was the only ground of rejection of claims 20-24, Applicants also submit that these claims are now in condition for allowance. Favorable reconsideration is requested.

E. The 35 U.S.C. § 103 Rejection of Claims 1-6, 11-15 and 25-30

The Examiner has rejected claims 1-6, 11-15 and 25-30 under 35 U.S.C. § 103(a) as being unpatentable over Messenger. Applicants respectfully traverse this rejection for the following reasons.

Amended independent claims 1, 11 and 25 each recite a method of cementing within a wellbore including introducing a cement slurry comprising a hydraulic cement and aluminum silicate, wherein the aluminum silicate comprises at least one of kaolin, metakaolin, halloysite, dickite, nacrite, or a mixture thereof.

To support an obviousness rejection under § 103, two criteria must be met: (1) the prior art must provide a suggestion to those of ordinary skill in the art to make the claimed invention; and (2) the prior art must reveal to those of ordinary skill in the art a reasonable expectation of success in doing so. *In re Vaeck*, 20 U.S.P.Q.2.D. 1438, 1442 (Fed. Cir. 1991). Both suggestion and reasonable expectation of success must be based on the prior art and not taken from the Applicants' disclosure. *Id.* In this regard, *each and every element* of the claimed invention must be taught by the cited references. Significantly, "the prior art reference (or references when combined) must teach or suggest *all* of the claim limitations" (*See* MPEP § 2142 and 2143.03)(emphasis added).

In the present case, Messenger does not disclose, teach or suggest a method of cementing a wellbore employing a cement slurry that includes a hydraulic cement and an aluminum silicate that comprises at least one of kaolin, metakaolin, halloysite, dickite, nacrite, or a mixture thereof (as recited in each of claims 1, 11 and 25). Nor does Messenger disclose, teach or suggest a

method of cementing a wellbore that is located in a seafloor at a water depth greater than about 1000 feet (as recited in claim 1). Nor does Messenger mention a cement slurry that substantially prevents intrusion of fluid into the wellbore *prior to and after* setting of the cement slurry (as recited in claim 25). Fluid intrusion is defined in the Specification to include “partial or complete displacement of cement slurry by a formation fluid, fluid flow between a cement slurry and wellbore tubulars, fluid flow between a cement slurry and surrounding formation face, and/or fluid flow through the matrix of a cement slurry” (*see* page 11, lines 12-15). As described in the Specification, such fluid intrusion (gas and/or liquid) is a problem encountered in wellbore cementing (*see* page 2, line 27-30; page 3, lines 3 to 30; and page 4, lines 12 to 22). For at least each of the foregoing independent reasons, claims 1, 11 and 25 are nonobvious over Messenger, as are claims 2-6, 12-15 and 26-30 which depend therefrom.

Therefore, Applicants respectfully request that the 35 U.S.C. § 103 rejection of claims 1-6, 11-15 and 25-30 be withdrawn. Favorable reconsideration is requested.

F. The 35 U.S.C. § 103 Rejection of Claims 7, 10, 16 and 19

The Examiner has rejected claims 7, 10, 16 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Messenger in view of Griffith. Applicants respectfully traverse this rejection for the following reasons.

Independent claims 1 and 11 have already been shown above to be patentable over Messenger, and claims 7 and 10 (which depend from claim 1), as well as claims 16 and 19 (which depend from claim 11) are therefore patentable over Messenger for the at least the same reasons. Like Messenger, Griffith does not disclose, teach or suggest a method of cementing a